

THE HONORABLE JAMES L. ROBERT

UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF WASHINGTON AT SEATTLE

CENTER FOR BIOLOGICAL DIVERSITY,

Plaintiff,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, ET AL.

Defendants.

CASE NO. 2:13-cv-01866-JLR

BRIEF OF *AMICI CURIAE* PACIFIC COAST
FEDERATION OF FISHERMEN'S
ASSOCIATIONS, SOUTHERN CALIFORNIA
TRAWLERS' ASSOCIATION, AND
INSTITUTE FOR FISHERIES RESOURCES
IN SUPPORT OF PLAINTIFF CENTER FOR
BIOLOGICAL DIVERSITY'S MOTION FOR
SUMMARY JUDGMENT

NOTE ON MOTION CALENDAR:
November 7, 2014

BRIEF OF *AMICUS* PCFFA
IN SUPPORT OF PLAINTIFFS
(2:13-cv-01866-JLR)

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INTRODUCTION

For years, the United States Environmental Protection Agency (EPA), Washington Department of Ecology (WDE), and Oregon Department of Environmental Quality (ODEQ) possessed data showing dangerous acidity levels in the coastal waters of the Pacific Northwest—levels that violated the states’ water quality standards. WDE in particular possessed this data because it was generated by its own monitoring stations. Nonetheless, WDE, by its own admission, failed to evaluate its own data when preparing its mandatory list of impaired water bodies under the Clean Water Act (CWA). This alone requires remanding the case. EPA may only approve a state’s list if the state meets all the requirements of 40 CFR 130.7(b), including the requirement to “assemble and evaluate *all* existing and readily available water quality-related data and information” under 130.7(b)(5) (emphasis added).

WDE and ODEQ have also turned a blind eye to the numerous shellfishery collapses and other stark evidence of a coastline in danger. These dangers have now reached a critical juncture, not only for the region’s \$200 million shellfish industry but also for thousands of commercial fishing families and the multi-billion dollar fishing industry vital to the economies of the Pacific Northwest. The purpose of the CWA’s water quality impairment listing is to serve as an informational tool—to allow states to plan how best to deal with such critical pollution problems. But this tool is rendered impotent if the agencies are free to ignore their own data showing the mounting threat.

STATEMENT OF INTEREST

Amicus Pacific Coast Federation of Fishermen’s Associations (PCFFA) is a U.S. west-coast-based commercial fishing industry trade association representing the interests and fishing heritage of approximately 1,000 commercial fishing families who depend on healthy oceans for

all or a portion of their livelihoods. The Southern California Trawlers’ Association is a member of PCFFA and is a fishermen’s marketing and resource protection organization representing the interests of the Southern California trawler fleet, which harvests migratory fish affected by ocean acidification in the Pacific Northwest. The Institute for Fisheries Resources is the marine resource protection and conservation affiliate of PCFFA, working to restore valuable west coast fisheries and the aquatic habitats they rely upon. The economic interests of *amici* (collectively “PCFFA”) are directly affected when the marine waters off the coasts of Washington and Oregon violate the relevant water quality criteria under the CWA.¹

SUMMARY OF ARGUMENT

The EPA “*shall* approve [a 303(d) list] . . . *only if* it meets the requirements of 130.7(b).” 40 CFR 130.7(d)(2) (emphases added). One of those requirements is that states “assemble *and evaluate all* existing and readily available water quality-related data and information. . . .” 40 CFR 130.7(b)(5) (emphasis added).

Here, the State of Washington, by its own admission, failed to consider the data generated by its own monitoring stations. This was true even after the Center for Biological Diversity specifically requested that it include such data in its analysis.

This data is quite damning. Thousands of samples have measured pH beyond the required range, demonstrating repeated water quality violations in the marine waters of the Pacific Northwest. They show an ocean environment in grave danger, with acidity readings up to 10 times more corrosive than the allowable standards, and getting worse over time.

¹ No party or party’s counsel authored this brief, in whole or in part, or contributed money that was intended to fund preparing or submitting this brief. In addition, no person—other than *amicus curiae*, its members, or its counsel—contributed money that was intended to fund preparing or submitting this brief.

Indeed, a large portion of the Pacific Northwest's valuable ocean fisheries are now increasingly at biological (and thus economic) risk because of ocean acidification. According to the federal report *Fisheries Economics of the US (2012)* (FEUS 2012), in 2012 alone the Pacific Northwest's seafood industry created generated \$1.2 billion in sales impacts in Oregon, supporting an estimated 16,051 family wage jobs, and another \$7.5 billion in sales impacts in Washington, supporting an estimated 60,955 family wage jobs.² The Oregon and Washington shellfish and crab components of that industry—species particularly susceptible to carbonate-based shell losses from increasingly acidic waters—together accounted in 2012 for \$240 million in direct landing revenues, with much greater economic impacts as those products traveled the chain of commerce to the consumer.³

While the science behind ocean acidification is beyond the scope of the purely legal issues of this brief, the science now clearly shows that, while carbonate-shelled sea creatures are most immediately vulnerable to increasing ocean acidification, *nearly every marine species* could eventually be adversely affected. Because zooplankton are at particular risk—and because they are the food source for vast ocean ecosystems—their demise could trigger a collapse of the ocean food webs upon which so many marine species, including billions of humans, depend.⁴

ARGUMENT

I. EPA Must Disapprove the States' 303(d) Lists if the States Fail to Evaluate All Relevant Data

A. Washington Ignored Its Own Data Showing Marine Acidity Levels

² See *Fisheries Economics of the US (2012)* (FEUS 2012) (Pacific Report), at 28, available at: http://www.st.nmfs.noaa.gov/Assets/economics/documents/feus/2012/FEUS2012_Pacific.pdf

³ *Id.* at 33, 36.

⁴ For the scientific and economic implications of ocean acidification to fragile ocean ecosystems, see: *Ocean Acidification: A National Strategy to Meet the Challenges of a Changing Ocean* (2010), National Research Council of the National Academy of Science, <http://dels.nas.edu/Report/Ocean-Acidification-National-Strategy/12904>.

1 The CWA assigns EPA the critical role of reviewing state 303(d) lists of impaired
 2 waterways. 33 U.S.C. 1313(d). As the regulations make clear, EPA “*shall* approve [a 303(d)
 3 list] . . . *only if* it meets the requirements of 130.7(b).” 40 C.F.R. 130.7(d)(2) (emphases added).
 4 Among the requirements that EPA must oversee is the mandatory duty of states to “assemble and
 5 evaluate *all* existing and readily available water quality-related data and information....” 40 CFR
 6 130.7(b)(5) (emphasis added). This regulation “cannot be read as anything other than
 7 mandatory; it sets out a list of required elements for state § 303(d) submissions and states that the
 8 administrator ‘shall’ only approve a list that includes all required elements.” *American Canoe*
 9 *Ass’n v. USEPA*, 30 F. Supp.2d 908, 918 (E.D. Va. 1998).

12 By its own admission, Washington violated this mandatory duty, which in turn required
 13 EPA, under its own regulations, to disapprove the state’s list. *See id.* (“When the word ‘shall’
 14 appears in a statute, it is generally construed as mandatory, leaving no room for agency
 15 discretion,” and the same applies to 40 C.F.R. 130.7(b)). Washington has been monitoring pH
 16 levels in its marine waters for decades. WA-000813. The Center for Biological Diversity, in its
 17 comments on the draft 2010 assessment of Washington’s marine waters, specifically pointed out
 18 that Washington possessed long-term monitoring data “which could prove extremely useful for
 19 monitoring the impact of ocean acidification....” *Id.* Yet WDE chose not to evaluate its own
 20 data in making its listing decision. When Washington responded to the Center for Biological
 21 Diversity’s comments, it admitted that such data “was not used for the Water Quality
 22 Assessment.” WA-000068-000069. EPA itself was aware of this. WA-000070 (copying Jill
 23 Gable, USEPA). Even so, EPA did not review WDE’s data when it reviewed Washington’s
 24 listing decision. WA-000021 (list of references reviewed by EPA). Thus WDE, by its own
 25 admission, failed to evaluate “all existing and readily available water quality-related data,” which

1 in turn triggered a mandatory duty on the part of EPA to disapprove its list. *See* 40 C.F.R.
 2 130.7(d)(2) (EPA “*shall* approve [a 303(d) list] . . . *only if* it meets the requirements of
 3 130.7(b)”) (emphases added). On this basis alone, EPA’s approval must be remanded.

4 **B. Washington’s Data Showed Repeated Water Quality Violations**

5 The data that WDE and EPA ignored is particularly damning. It shows repeated and
 6
 7 worsening water quality violations related to the state’s marine pH standard.

8 Washington has adopted a numeric criterion for pH of its marine waters. A pH number is
 9 a measure of acidity that is measured on a logarithmic scale ranging from 0 (most acidic) to 14
 10 (most alkaline), with a pH of 7.0 defined as chemically neutral. In Washington, virtually all
 11 marine waters are designated “extraordinary” or “excellent” or “good” quality (*see* WAC 173-
 12 201A-612), where the pH *must* be within the range of 7.0 to 8.5. WAC 173-201A-210(1)(f). A
 13 single water sample that falls outside this range is called an *excursion*. WA-001416. A water
 14 quality *violation* occurs if two criteria are met: (1) a minimum of three excursions exist from all
 15 data considered, and (2) at least ten percent of all “values”⁵ in a given year do not meet the
 16 criterion. WA-001400. Furthermore, if a water body meets these criteria for a water quality
 17 violation, that water body is identified as a “Category 5” quality-impaired water body. *Id.* A
 18 Category 5 water body *must* be included in the list of quality-impaired water bodies submitted by
 19 the state to EPA. WA-000012.

22 For years, WDE’s data showed widespread, and ongoing, water quality violations of the
 23 State’s pH criterion. According to the data published on WDE’s own website, fully 61 out of 79
 24 monitoring stations from 1989 to 2012 experienced water quality violations sufficient for
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28 ⁵ “Value” apparently refers to “daily value,” which is defined as the most extreme excursion sample for each day of monitoring. WA-001399.
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Category 5 designation—and hence mandatory listing under 303(d).⁶ Twenty-six of those 61 stations found water quality violations based on pH levels that were too acidic—in other words, where pH fell below 7.0.⁷ In 2013 alone, 9 different stations recorded water quality violations requiring listing, based on nearly 2,000 excursions for those stations alone.⁸

The problem of ocean acidification has become markedly worse over time. This is clear from the increasing prevalence of excursions that can lead to violations. For example, in 1991, only 1 out of 45 monitored stations experienced low-end (acidic) pH excursions, and the extent of those excursions was not severe enough for a Category 5 designation.⁹ Ten years later, in 2001, 5 out of 35 monitored stations experienced low-end (acidic) pH excursions.¹⁰ By 2011, the number of excursions had skyrocketed. Based on a conservative analysis,¹¹ in 2011, for the first time in history, 24 out of the 35 total stations that were monitored recorded at least one acidic excursion.¹²

Washington's Coastal Estuaries region has been especially prone to ocean acidification.¹³ For example, the pH at GYS004 station (Grays Harbor – Chehalis R.) was measured below 7.0, as low as 5.8, *1,213 times* (i.e., excursions) during seventy-three months between 1990 and

⁶ Washington Dept. of Ecology, Long-Term Marine Water Quality Data, <http://www.ecy.wa.gov/apps/eap/marinewq/mwdataset.asp> (last visited July 23, 2014) [*hereinafter Database*].

⁷ *See id.*

⁸ *See id.*; Appendix A, Table 1.

⁹ *See id.* (GYS004 station).

¹⁰ *See id.* (Stations are: BLL009, HCB007, PAH003, PSB003, and GYS004).

¹¹ Even the samples with invalid or no pH data were accounted for in calculating the total number of samples, underestimating the percentage of excursions over total.

¹² *See Database, supra* note 6. (Stations are: BUD005, CMB003, CRR001, CSE001, DNA001, DYE004, ELB015, ELD001, GOR001, HCB003, HCB004, HCB010, NSQ002, OAK004, PSB003, SIN001, TOT001, GYS004, GYS008, GYS016, WPA001, WPA003, WPA004, WPA006).

¹³ While the Coastal Estuaries are often close to river outlets, and thus vulnerable to land-based pollution, the source of a pH violation does not matter for purposes of 303(d) listing. WA-001124. (EPA expects the water body to be listed even if “the source-stressor is unknown” or includes “nutrient enrichment”, “industrial discharge”, or “natural background”).

2012.¹⁴ Every year from 1992 to 2012, with the exception of 2009, this water body experienced a sufficient number of pH excursions to constitute a violation requiring listing under 303(d).¹⁵ Willapa Bay (WPA001) station, situated roughly 30 miles from Oregon’s border, has likewise shown numerous pH violations over the years. WDE’s own data show that this water body experienced a water quality violation related to pH in 1995, 1996, 1997, 1999, 2007, 2010, and 2012, with a close call in 2011.¹⁶ Virtually all of those violations were at the low-end of the range—i.e., were because the ocean was too acidic.¹⁷

Washington’s own data thus compelled the State, under its own policy, to list numerous of its marine waters on its 303(d) list.

C. This Court May Take Judicial Notice Of WDE’s Data

WDE’s data is publicly accessible on its own website. As such, it is self-authenticating and subject to judicial notice. The Ninth Circuit has made clear that “[j]udicial notice is appropriate for records and reports of administrative bodies.” *United States v. 14.02 Acres of Land*, 530 F.3d 883, 894 (9th Cir. 2008) (citation and internal quotations omitted); *see also Newton v. Holland*, 2014 U.S. Dist. LEXIS 10625, at *2-3 n.1 (E.D. Ky. Jan. 29, 2014) (“records and information located on government websites are self-authenticating under Fed. R. Evid. 902”); *Haines v. Home Depot*, 2012 U.S. Dist. LEXIS 47967, at *26 (E.D. Cal. Apr. 4, 2012)

¹⁴ *Database*, *supra* note 6 (Select “coastal estuaries” as the station group; select “GYS004” from the scroll-down menu; select “csv” as the format; select “all years” as the time span; and then click “get file”). Because pH is on a logarithmic scale, a pH of 6.0 is ten times more acidic than a pH of 7.0—the lower end of the numeric criterion for pH.

¹⁵ *See Database*, *supra* note 6; *see also* Appendix A, Table 2.

¹⁶ *See Database*, *supra* note 6 (Select “coastal estuaries” as the station group; select “WPA001” from the scroll-down menu; select “csv” as the format; select “all years” as the time span; and then click “get file”); *see also* Appendix A, Table 3.

¹⁷ *See Database*, *supra* note 6.

1 (“Federal courts consider records from government websites to be self-authenticating under Rule
2 902(5)”).

3 Even if the data were not an administrative record on the government’s own website, this
4 Court should nonetheless recognize it because “[t]he agency may not skew the record in its favor
5 by excluding pertinent but unfavorable information.” *Fund for Animals v. Williams*, 391
6 F.Supp.2d 191, 197 (D.D.C. 2005) (citation omitted); *see also Center for Biological Diversity v.*
7 *United States BLM*, 2007 U.S. Dist. LEXIS 81114 (N.D. Cal. Oct. 18, 2007), at *13 (same).

8 Indeed, “[s]upplementation of the record may be necessary when an agency excludes
9 information adverse to its position from the administrative record.” 391 F.Supp.2d at 197. Even
10 if the agency argues that certain data was not relied upon because it “was incomplete or
11 inaccurate, that does not mean it is irrelevant” to the agency’s decision. 2007 U.S. Dist. LEXIS
12 81114, at *15 (holding that data should be admitted into the record).

13 Moreover, where there is a requirement that a state evaluate *all* the data, a violation of
14 that requirement must by necessity include extra-record evidence. Indeed, it is the very fact that
15 such data is *not* in the record that forms the basis for the present legal challenge. The Ninth
16 Circuit has made clear that judicial review may encompass extra-record materials “if necessary
17 to determine whether the agency has considered all relevant factors and has explained its
18 decision.” *Southwest Ctr. For Biological Diversity v. US Forest Service*, 100 F.3d 1443, 1450
19 (9th Cir. 1996) (citation and internal quotations omitted).

20 Here, WDE admitted that it failed to consider all the data, as noted *supra*, and such data
21 is extremely adverse to its position. As such, this Court is more than justified in considering it.
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D. Washington’s Claims of Data Unreliability Ring Hollow

Washington’s only stated reason for not using its own data was that it “could be subject to large (+/- 0.5 pH units), non-quantifiable error and [is] inadequate to assess changes in pH due to anthropogenic contribution.” WA-000069. This argument should be rejected on its face.

First, WDE never made any attempt to gather more reliable data. The state is simply having its cake and eating it too—conducting the necessary monitoring yet choosing to ignore the results when they show problems. If states are free to exclude their own data simply by making vague claims of “non-quantifiable error,” yet must never then obtain more reliable data, the states are essentially free to capriciously ignore the requirement to “evaluate all existing and readily available water quality-related data” under 40 CFR 130.7(b)(5). Indeed, WDE’s own guidelines suggest that it should not exclude data simply because there might, given unlimited resources, be better data to be had. WDE’s Water Quality Program Policy 1-11, revised July 2012, clearly states that while “[c]ontinuous monitoring [of pH] is preferred,” “until improved technology leads to more projects incorporating continuous pH measurements, Ecology recognizes that most pH monitoring is performed as single sample events.” WA-001399.

Second, the argument is contradicted by the facts published on WDE’s own website. As noted, WDE made vague claims that its electrode sensors were subject to a “non-quantifiable” error range of +/-0.5 pH unit. Elsewhere, however, WDE has claimed a much lower error range, stating that its pH data are collected using a high-resolution glass electrode sensor with error range of just 0.1 pH unit.¹⁸ This much smaller error range is only confirmed by the sensor’s

¹⁸ See Washington Dept. of Ecology, Stream Sampling Protocols for the Environmental Monitoring and Trends Section, 25 (Oct. 2001), *available at* <https://fortress.wa.gov/ecy/publications/publications/0103036.pdf>; Washington Dept. of Ecology, Washington State Marine Water Quality, 1998 through 2000, 13 (Dec. 2002), *available at* <https://fortress.wa.gov/ecy/publications/publications/0203056.pdf>

1 manufacturer.¹⁹ Indeed, there is nothing in the Administrative Record to demonstrate why this
 2 much smaller error range is wrong. The only thing WDE claimed was that it “conducted an
 3 assessment of pH data via electrode probe, performing comparative analyses” during a NOAA
 4 research voyage. WA-000069. This vague analysis was the only basis for excluding decades of
 5 data from multiple monitoring stations—data that WDE and the sensor manufacturer had both
 6 previously agreed was subject to a different, smaller error range. WDE’s analysis also ignores
 7 the fact that any individual measurement error, which can take either positive or negative value,
 8 would largely be eliminated in statistically robust samples such as the one in WDE’s database,
 9 where those errors either way would tend to cancel each other out.
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 12 *Third*, even if the +/- 0.5 pH error range were true, and even if it *only* worked to over-
 13 count the violations in *every* case, WDE’s data *still* show numerous pH violations outside this
 14 supposed range. In other words, even if WDE’s data were restricted to readings below 6.5 pH
 15 units (beyond even the full claimed 0.5 pH unit error range), there still would have been 16 water
 16 quality violations at 6 different stations between 1989 and 2012.²⁰ At the GYS004 station alone,
 17 there were 11 extreme acidic violations and 260 extreme acidic excursions below 6.5 pH from
 18 1990 to 2012.²¹ These violations reflect extreme pH violations that cannot be statistically
 19 accounted for by any supposed 0.5 pH error range. Again, the fact that WDE did not even
 20 evaluate its own data meant that it deliberately blinded itself to these extreme and undisputed
 21 water quality violations.
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 25 ¹⁹ See http://www.ecy.wa.gov/apps/eap/marinewq/helpnotes/param_descriptions.html (describing the pH meter
 26 used in Washington since 1989 as the SeaBird SBE 18 sensor), and
 27 http://www.seabird.com/products/spec_sheets/18data.htm (describing the SeaBird SBE 18 as having an accuracy of
 28 +/- 0.1 pH).

²⁰ See database, *supra*, note 6; Appendix A, Table 4.

²¹ See database, *supra*, note 6; Appendix A, Table 4. Table 4 reflects 215 extreme excursions at GYS004 in years
 that had enough extreme excursions to constitute water quality violations. In addition, GYS004 recorded 45
 extreme excursions in other years (8 in 1990, 3 in 2001, 4 in 2002, and 30 in 2011).

1 *Fourth*, even if WDE’s supposed “large” error range were true, it still would not relieve
 2 WDE of the mandatory duty to at least *evaluate* the data. Similar broad-brush claims of
 3 unreliability were dismissed by the court in *Sierra Club, Inc. v. Leavitt*, which distinguished
 4 *using* the data from *evaluating* it, and made clear that even if some of the data were unreliable “it
 5 does not obviate the requirement in § 130.7(b)(5) that [a state] *evaluate* all existing and readily
 6 available data.” *Sierra Club, Inc. v. Leavitt*, 488 F.3d 904, 913 (11th Cir. 2007) (holding that
 7 “states are required by the CWA to identify *all* waterbodies that fail to meet water quality
 8 standards” and “cannot shirk this responsibility simply by claiming a lack of current data”)
 9 (emphases in original). Courts have consistently held the agency to a similar standard in other
 10 contexts. *See Ass’n of Irrigated Residents v. U.S. E.P.A.*, 686 F.3d 668, 677 (9th Cir. 2012)
 11 (“[T]he question is . . . whether EPA has unlimited discretion to ignore evidence indicating an
 12 existing SIP [under the Clean Air Act] might be substantially inadequate and choose to do
 13 nothing. We believe EPA’s failure to act in light of strong evidence . . . is arbitrary and
 14 capricious”); *Sierra Club v. U.S. E.P.A.*, 671 F.3d 955, 968 (9th Cir. 2012) (reviewing EPA
 15 approval of a SIP, the Court held that “EPA’s failure to even consider the new data and to
 16 provide an explanation for its choice rooted in the data presented was arbitrary and capricious”).
 17 The rationale of these cases is similar to the one presented here. If an agency can categorically
 18 ignore data by making the vaguest of unreliability claims, then any requirement to evaluate *all*
 19 relevant data becomes meaningless.
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24 *Fifth*, and finally, WDE’s claim of error is not even relevant to the present argument.
 25 WDE claimed that the supposed “non-quantifiable error” made the data “inadequate to assess
 26 changes in pH *due to anthropogenic contribution*.” WA-000069 (emphasis added). WDE is
 27 apparently referring to a secondary pH criterion, which is that *within* the 7.0 to 8.5 pH range,
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there can be no more than 0.2 units of human-caused variation for “extraordinary” quality waters. WAC 173-201A-210(1)(f). However, WDE apparently ignored the fact that the 7.0 to 8.5 range itself is an absolute one that does *not* depend on whether the pH change is human-caused. Indeed, EPA itself, in its guidelines, has stated that “if marine pH exceeds the State’s criterion, but the source-stressor is unknown (e.g., carbon deposition, nutrient enrichment, industrial discharge, natural background), then EPA *expects the segment to be listed.*” WA-001124 (emphasis added). In other words, the state excluded its own pH data on the basis that it was inadequate to assess the *secondary* pH criterion (that of human-caused change), while ignoring the fact that there is a *primary* pH criterion that does not depend on such change and that its own data shows has been violated many times over many years.

In sum, even though 40 CFR 130.7(b)(6)(iii) allows states to submit a “rationale for any decision to not *use* any existing and readily available data and information for any one of the categories of waters as described in § 130.7(b)(5)” (emphasis added), it does not give states unfettered discretion to categorically refuse to *evaluate* that data when compiling their 303(d) lists. This is especially true when the state never attempted to gather more reliable data, when its own website contradicts its unreliability claims, when there are numerous extreme violations that cannot be accounted for by any supposed error, and when its unreliability claim is not even directed at the relevant criterion.

II. Both Washington and Oregon Are Violating The Narrative Criteria For Their Marine Waters

A. Both states employ narrative criteria for pH in marine waters

Even if the data did not show repeated water quality violations, the marine waters at issue would still have to be listed as “impaired” under both states’ narrative standards. Washington applies the following narrative criteria to water quality standards regarding pH: “Toxic,

radioactive, or deleterious material concentrations must be below those which have the *potential*, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the *most sensitive biota* dependent upon those waters, or adversely affect public health.” WAC 173-201A-260(2)(a) (emphases added). Oregon’s narrative criteria require waters to “be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.” OAR 340-041-0011. Further, Oregon’s water quality standards are meant to prevent “conditions . . . deleterious to fish or other aquatic life.” OAR 340-041-0007(11). The EPA regulations, which apply to both states, stress that “for waters with multiple use designations, the criteria shall *support the most sensitive use*.” 40 CFR 131.11(a)(1) (emphasis added). States must use these narrative criteria to evaluate their coastal waters and determine whether they should be listed under 303(d). *See* 40 CFR 130.7(b)(3) (water quality standards for listing include narrative criteria). Yet the EPA approved lists from Washington and Oregon that did not take those states’ narrative criteria into account.

B. Washington violated its narrative criteria because native shellfish populations are at risk

Ocean acidification is more than just a matter of pH numbers. Increasing acidity endangers marine calcifiers upon which vast food systems depend. Calcifiers are small animals, such as oysters, crab, or shrimp, that form shells or skeletons from calcium carbonate, which is a naturally abundant compound in healthy marine waters. WA-000712 (Blue Ribbon Report, at xii). However, as marine water pH declines in the process of acidification, the quantity of dissolved calcium carbonate also declines, making it difficult for calcifiers to form shells. *Id.* Washington’s waters are also home to calcifying zooplankton, such as many species of krill, which are vital to the diets of much larger marine animals. When the zooplankton population plummets, as it does under acidic conditions, this endangers the basic food source of whole

1 populations of native Pacific Northwest marine animals that depend on plankton for survival.
 2 WA-001005-001006.

3 The dangers posed by decreased marine pH directly threaten the Washington shellfishing
 4 industry and the families whose livelihoods depend on this industry. Annually, farmed shellfish
 5 have an economic value of over \$1.7 billion in Washington, and shellfish growers employ over
 6 3,200 people in the state.²² In addition, wild shellfish harvests account for over two-thirds of the
 7 value of Washington's wild fisheries. Blue Ribbon Report, at 4. Acidifying ocean waters cause
 8 shellfish to grow more slowly or not at all, and greatly increase their mortality. Although
 9 shellfish of every age are at risk, young shellfish are particularly vulnerable.
 10

11 As a result of accelerating ocean acidification, shellfisheries in the Pacific Northwest will
 12 likely have fewer mature shellfish available to harvest, and Washington stands to lose much of
 13 the \$1.7 billion in gross profits from wild and farmed shellfishing. Blue Ribbon Report, at 5. In
 14 fact, in 2008, Taylor Shellfish Farms lost 60% of the young oysters at its Washington hatchery.²³
 15 Also, beginning in 2005, corrosively acidic water from Willapa Bay was drawn into the Goose
 16 Point Oyster Co.'s hatchery. Every year since then, this water has killed the young oysters in the
 17 hatchery, forcing Goose Point in 2012 to relocate much of its production to Hawaii to find non-
 18 acidified waters in which to raise healthy oysters.²⁴
 19
 20

21 **C. Oregon violated its water quality standards because the altered pH of its**
 22 **marine waters is harming its commercially important fish and shellfish**

23 The CBD presented Oregon and the EPA with a clear case of ocean acidification-driven
 24 population decline, in violation of Oregon's narrative criteria. Whiskey Creek Shellfish
 25

26
 27 ²² Washington Shellfish Initiative, at 1, pcsga.org/shellfish-initiative/.

²³ Jennifer Langston, *Trouble on the Half Shell*, SIGHTLINE DAILY, June 22, 2011, at 3.

28 ²⁴ Craig Welch, *Sea Change: Oysters dying as coast is hit hard*, SEATTLE TIMES, September 11, 2013, accessed at <http://apps.seattletimes.com/reports/sea-change/2013/sep/11/oysters-hit-hard/>.

1 Hatchery, which gets its water from coastal Oregon waters in Netarts Bay, is one of the nation's
 2 largest oyster producers. The Hatchery lost several billion oyster larvae in 2008 during
 3 upwelling, a process that brings acidified waters to the surface. OR1-000312. When water is
 4 more acidic, the young oysters must necessarily spend more energy building up their shells. *Id.*
 5 This energy expenditure leads to a 5% increase in daily mortality rates for young oysters. *Id.*
 6

7 In addition to shellfish, Oregon's fish population, including the state fish, salmon, is also
 8 endangered by ocean acidification. Decreased pH in the water harms fishes' blood circulation,
 9 potentially leading to deadly cardiac failure. Ishimatsu 2004, at 737-738. Many other
 10 commercially harvested fish species also rely on the food web in Oregon's marine waters, and
 11 acidification of these waters threatens to destroy this web. Salmon, for example, depend for food
 12 on calcifying plankton called pteropods. With fewer surviving pteropods, the salmon are at
 13 greater risk of death from lack of food, threatening all the regional economies those salmon runs
 14 support. Blue Ribbon Report, at 17, 21; WA-001009-001010.
 15

16 These threats are precisely the ones that the CWA's 303(d) lists are meant to inform the
 17 agencies and the general public about. The Ninth Circuit described the listing requirement under
 18 303(d) as an "information-gathering provision . . . § 303(d) is structurally part of a set of
 19 provisions governing an interrelated goal-setting, information-gathering, and planning process."
 20 *Pronsolino v. Nastri*, 291 F.3d 1123, 1138 (9th Cir. 2002). When the agencies short-circuit this
 21 planning process by ignoring their own data and evidence of such a grave and mounting threat,
 22 then these agencies have violated the law.
 23
 24

25 CONCLUSION

26 For the foregoing reasons, this Court should grant plaintiff's motion for summary
 27 judgment and deny defendant's motion for summary judgment.
 28

1
2
3 DATE: August 28, 2014

Respectfully submitted,

4
5 /s/ Michael Barsa

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APPENDIX A

Table 1: Excursions and Violations by Stations in 2013

Station	Total Excursions	Total Samples	Total Daily Values	Daily Value Excursions	Percentage
GYS004	30	320	10	1	10.00%
ADM001	882	2781	11	2	18.18%
ADM002	128	1511	10	3	30.00%
GRG002	268	3619	10	3	30.00%
HCB003	274	2830	11	7	63.64%
HCB004	114	1154	11	6	54.55%
HCB007	45	439	11	4	36.36%
HCB010	181	2309	12	8	66.67%
PTH005	50	525	11	5	45.45%

Table 2: Violations at GYS004—All Years

Year	Total Excursions	Total Samples	Total Daily Values	Daily Value Excursions	Percentage
1992	52	188	8	3	37.5%
1993	53	167	8	3	37.5%
1994	39	183	8	4	50.0%
1995	36	214	10	2	20.0%
1996	88	240	11	5	45.5%
1997	48	216	12	3	25.0%
1998	22	199	11	2	18.2%
1999	104	187	11	9	81.8%
2000	18	176	10	1	10.0%
2001	22	188	12	4	33.3%
2002	58	176	7	3	42.9%
2003	161	265	11	7	63.6%
2004	78	250	7	4	57.1%
2005	143	219	7	5	71.4%
2006	15	197	7	2	28.6%
2007	61	272	10	3	30.0%
2008	32	318	9	3	33.3%
2010	30	288	9	2	22.2%
2011	75	326	11	4	36.4%
2012	55	255	10	3	30.0%

Table 3: Violations and Close Calls at WPA001—All Years

Year	Total Excursions	Total Samples	Total Daily Values	Daily Value Excursions	Percentage
1995	20	169	11	2	18.2%
1996	47	170	11	4	36.4%
1997	37	197	12	2	16.7%
1999	10	101	9	1	11.1%
2007	21	186	10	1	10.0%
2010	13	161	9	1	11.1%
2011	17	178	11	1	9.1%
2012	17	165	10	1	10.0%

Table 4: Extreme Violations—All Stations

Station	Year	Total Extreme Excursions	Total Samples	Total Daily Values	Daily Value Extreme Excursions	Percentage
OAK004	2005	42	312	12	2	16.7%
PAH003	2001	33	326	9	1	11.1%
PTH005	2005	15	961	10	1	10.0%
SIN001	2005	40	302	11	2	18.2%
GYS004	1994	2	183	8	1	12.5%
GYS004	1995	10	214	10	1	10.0%
GYS004	1996	38	240	11	3	27.3%
GYS004	1997	22	216	12	3	25.0%
GYS004	1999	23	187	11	4	36.4%
GYS004	2003	33	265	11	3	27.3%
GYS004	2004	7	250	7	1	14.3%
GYS004	2005	40	219	7	2	28.6%
GYS004	2007	31	272	10	3	30.0%
GYS004	2008	3	318	9	1	11.1%
GYS004	2012	6	255	10	1	10.0%
GYS008	2002	11	44	6	1	16.7%

CERTIFICATE OF SERVICE

I hereby certify that on August 29, 2014, I electronically filed the Brief of *Amici Curiae* Pacific Coast Federation Of Fishermen's Associations, Southern California Trawlers' Association, and Institute For Fisheries Resources In Support Of Plaintiff Center For Biological Diversity's Motion For Summary Judgment using the CM/ECF system. Participants in this case who are registered CM/ECF users will be served by the CM/ECF system.

/s/ Michael Barsa

Michael Barsa